PATENT CLAIMS

1. A blade for cutting a moving material web with a blade body that has a steel cutting edge, characterized in that at least a surface of the cutting edge is coated by means of a plasma-aided method with foreign ions to a depth between 50 μm and 500 μm, preferably 100 μm to 200 μm.

2. The blade according to claim 1, characterized in that at least the cutting edge (5 or 8) has a hardness of 800 HV to 1300 HV, preferably 900 HV to 1200 HV, in particular 950 HV to 1050 HV, without impairing ductility.

3. The blade according to claim 1 or 2, characterized in that at least the cutting edge (5 or 8) and preferably the entire blade body (3 or 6) is formed of a heat-treated steel, a high-speed steel, or a tool steel, in particular a cold-worked steel.

4. The blade according to one of claims 1 to 3, characterized in that the foreign ions are of nitrogen, carbon, molybdenum, tungsten, and/or titanium.

5. The blade according to claim 4, characterized in that the portion of foreign ions that are molybdenum or tungsten ions is smaller than the portion that is titanium ions.

6. An apparatus for longitudinally cutting a moving material web, in particular a paper or cardboard web or a plastic or metal foil with one or more pairs of circular blades each comprises of an upper blade (1) and a lower blade (2), characterized in that the upper blade (12) and/or the lower blade (2) is a circular blade with the features of one or more of claims 1 to 5.

7. An apparatus for transversely cutting a moving material web, in particular a paper or cardboard web with a blade drum that is fitted on its surface with one or more transverse blades extending a full length of the drum, characterized in that the transverse blade is formed according to one or more of claims 1 to 5.